

CPC

COOPERATIVE PATENT CLASSIFICATION

E03D

WATER-CLOSETS OR URINALS WITH FLUSHING DEVICES;
FLUSHING VALVES THEREFOR

E03D 1/00

Water flushing devices with cisterns; {Setting up a range of flushing devices or water-closets; Combinations of several flushing devices}

E03D 1/003

. {Cisterns in combination with wash-basins, urinals, or the like (domestic plumbing installations [E03C](#))}

E03D 1/006

. {Realisations of and provisions for preventing "sweating" of cisterns}

E03D 1/01

. Shape or selection of material for flushing cisterns

E03D 1/012

.. Details of shape of cisterns, e.g. for connecting to wall, for supporting or connecting flushing-device actuators {(mounting frames with incorporated cisterns [E03D 11/146](#))}

E03D 1/0125

... { of built-in cisterns}

E03D 1/02

. High-level flushing systems

E03D 1/025

.. {Cisterns with floats actuating the flushing}

E03D 1/04

.. Cisterns with bell siphons

E03D 1/05

... with movable siphon bells

E03D 1/053

.... {which are pushed upwards by means of own buoyancy, springs, counterweights, or the like}

E03D 1/056

.... { providing an air lock}

E03D 1/06

.. Cisterns with tube siphons

E03D 1/07

... with movable or deformable siphon tubes

E03D 1/08

... Siphon action initiated by air or water pressure {(actuating mechanisms therefor [E03D 5/024](#))}

E03D 1/082

.... {in tube siphons}

E03D 1/085

..... {by injection of air or water in the short leg of the siphon}

E03D 1/087

..... {by pump, valve, or the like, in the short leg of the siphon or a vacuum pump in the long leg of the siphon}

E03D 1/10

... Siphon action initiated by raising the water level in the cistern, e.g. by means of displacement members

E03D 1/105

.... {in cisterns with tube siphons}

E03D 1/12

... Siphon action initiated by outlet of air

E03D 1/125

.... {in cisterns with tube siphons}

E03D 1/14

.. Cisterns discharging variable quantities of water (twin or multiple flushing cisterns [E03D 1/22](#); flushing devices operated by pressure of the water supply system and discharging variable quantities of water [E03D 3/12](#)){also cisterns with bell siphons in combination with flushing valves}

E03D 1/141

... {in cisterns with tube siphons and with tube siphons in combination with flushing

- valves}
- E03D 1/142 . . . {in cisterns with flushing valves}
- E03D 1/144 {having a single flush outlet and an additional float for delaying the valve closure}
- E03D 1/145 {having multiple flush outlets}
- E03D 1/16 . . Cisterns for periodical discharge
- E03D 1/165 . . . {with bell or tube siphons}
- E03D 1/18 . . Cisterns empty when not in action, {e.g. with pressure tanks, with swivel-mounted cisterns}
- E03D 1/183 . . . {with bell or tube siphons}
- E03D 1/186 . . . {with flushing valves}
- E03D 1/20 . . Cisterns with tiltably-mounted containers {for operation, e.g. by the seat [E03D 5/04](#)}
- E03D 1/22 . . Twin or multiple flushing cisterns
- E03D 1/24 . Low-level flushing systems
- E03D 1/26 . . Bowl with flushing cistern mounted on the rearwardly extending end of the bowl (shape or material of the cistern [E03D 1/01](#); constructional features of the bowl [E03D 11/02](#) to [E03D 11/12](#))
- E03D 1/263 . . . {provided with a bell or tube siphon}
- E03D 1/266 . . . {exclusively provided with flushing valves as flushing mechanisms}
- E03D 1/28 . . Bowl integral with the flushing cistern
- E03D 1/283 . . . {provided with a bell or tube siphon}
- E03D 1/286 . . . {provided with flushing valves}
- E03D 1/30 . Valves for high or low level cisterns; Their arrangement (inlet valves, valves in general [F16K](#)) {Flushing mechanisms in the cistern, optionally with provisions for a pre- or a post-flushing and for cutting off the flushing mechanism in case of leakage (flushing valves [E03D 1/142](#), [E03D 1/186](#), [E03D 1/266](#), [E03D 1/286](#))}
- E03D 1/302 . . {with valves kept in open position by means of air or water pressure or by vacuum}
- E03D 1/304 . . {with valves with own buoyancy}
- E03D 1/306 . . . {with articulated valves}
- E03D 1/308 . . {with articulated valves ([E03D 1/306](#) takes precedence)}
- E03D 1/32 . . Arrangement of inlet valves (devices for reducing noise [E03D 9/14](#)) {noise-reducing means [E03D 11/00](#)}
- E03D 1/33 . . Adaptations or arrangements of floats (actuating-floats in general [F16K 33/00](#))
- E03D 1/34 . . Flushing valves for outlets; Arrangement of outlet valves
- E03D 1/35 . . . Flushing valves having buoyancy
- E03D 1/36 . . Associated working of inlet and outlet valves
- E03D 1/38 . . Adaptations or arrangements of flushing pipes (noise-absorbing means in pipe systems [F16L 55/00](#)) {noise-reducing means in the flushing mechanism not in combination with flushing valves [E03D 11/00](#); provisions in the flushing pipe for evacuating leakage water from the cistern}
- E03D 3/00** **Flushing devices operated by pressure of the water supply system** {flushing valves not connected to the water-supply main, also if air is blown in the water seal for a quick

flushing}

- E03D 3/02 . Self-closing flushing valves ([self-closing valves in general F16K 21/04](#))
- E03D 3/04 .. with piston valve and pressure chamber for retarding the valve-closing movement
- E03D 3/06 .. with diaphragm valve and pressure chamber for retarding the valve-closing movement
- E03D 3/08 .. with other retarding devices
- E03D 3/10 . Flushing devices with pressure-operated reservoir, e.g. air chamber
- E03D 3/12 . Flushing devices discharging variable quantities of water ([flushing cisterns discharging variable quantities of water E03D 1/14](#))

- E03D 5/00** **Special constructions of flushing devices** ([in motor vehicles or trailers B60R 15/00](#); [in railway carriages B61D 35/00](#); [in ships B63B 29/14](#); [in aircraft B64D 11/02](#)), {e.g. closed flushing system}

- E03D 5/003 . {Grey water flushing systems}
- E03D 5/006 .. { Constructional details of cisterns for using greywater}

- E03D 5/01 . using flushing pumps

- E03D 5/012 . combined with movable closure elements in the bowl outlet ([bowls with closure elements between bottom or outlet and outlet pipe E03D 11/10](#))
- E03D 5/014 .. with devices for separate removal of liquids and solids

- E03D 5/016 . with recirculation of bowl-cleaning fluid

- E03D 5/02 . operated mechanically or hydraulically ([E03D 5/01](#), [E03D 5/12 take precedence](#)){[\(or pneumatically\)](#) also details such as push buttons, levers and pull-card therefor}
- E03D 5/022 .. { Operating automatically ([E03D 5/10 takes precedence](#))}
- E03D 5/024 .. {Operated hydraulically or pneumatically}
- E03D 5/026 .. {Devices preventing overflow or locks inhibiting the use of the flushing system ([devices preventing overflow of the bowl contents and seals for the bowl outlet E03D 11/00](#)); Devices preventing sucking-up of sealing and flushing water}

- E03D 5/028 .. { Pusher plates and actuating mechanisms for built-in cisterns}
- E03D 5/04 .. directly by the seat or cover {combined with devices for opening and closing shutters in the bowl outlet and/or with devices for raising and lowering seat or cover; Raising or lowering seat and/or cover by flushing or by the flushing mechanism}

- E03D 5/06 .. directly by the door
- E03D 5/08 .. directly by the foot {combined with devices for opening or closing shutters in the bowl outlet and/or with devices for raising or lowering seat and cover and/or for swiveling the bowl}

- E03D 5/09 .. directly by the hand
- E03D 5/092 ... the flushing element, e.g. siphon bell, being actuated through a lever
- E03D 5/094 ... the flushing element, e.g. siphon bell, being actuated through a cable, chain or the like

- E03D 5/10 . operated electrically ([E03D 5/01](#), [E03D 5/12](#) take precedence), {e.g. by a photo-cell; also combined with devices for opening or closing shutters in the bowl outlet and/or with devices for raising/or lowering seat and cover and/or for swiveling the bowl}
- E03D 5/105 . . { touchless, e.g. using sensors}
- E03D 5/12 . discharging periodically (high-level cisterns for periodical discharge [E03D 1/16](#))
- E03D 7/00** **Wheeled lavatories** (wheeled closets without flushing [A47K 11/00](#); construction of land vehicles [B62](#))
- E03D 9/00** **Sanitary or other accessories for lavatories** (hand tools for cleaning the toilets bowl [A47K 11/10](#); seats or covers for closets [A47K 13/00](#); body supports, other than seats for closets [A47K 17/02](#); devices for preventing contamination of drinking-water pipes [E03C 1/10](#)){Devices for cleaning or disinfecting the toilet room or the toilet bowl; Devices for eliminating smells (cleaning, disinfecting or deodorising the seat [A47K 13/30](#))}
- E03D 9/002 . {Automatic cleaning devices}
- E03D 9/005 . {Devices adding disinfecting or deodorising agents to the bowl}
- E03D 9/007 . {Devices for eliminating smells by diffusing deodorants in lavatories}
- E03D 9/02 . Devices adding a disinfecting, deodorising, or cleaning agent to the water while flushing (apparatus for disinfection [A61L 2/00](#); treatment of water in general [C02F](#))
- E03D 9/022 . . {consisting of solid substances introduced in the bowl or the supply line}
- E03D 9/03 . . consisting of a separate container with an outlet through which the agent is introduced into the flushing water, e.g. by suction; { Devices for agents in direct contact with flushing water}
- E03D 9/031 . . . {Devices connected to or dispensing into the flushing pipe}
- E03D 9/032 . . . {Devices connected to or dispensing into the bowl}
- E03D 9/033 . . . {Devices placed inside or dispensing into the cistern}
- E03D 9/035 {Devices connected to the actuation mechanism ([E03D 9/036](#) takes precedence)}
- E03D 9/036 {Scoop-like devices}
- E03D 9/037 {Active dispensers, i.e. comprising a moving dosing element ([E03D 9/035](#) takes precedence)}
- E03D 9/038 {Passive dispensers, i.e. without moving parts}
- E03D 9/04 . Special arrangement or operation of ventilating devices (ventilating rooms in general [F24F](#))
- E03D 9/05 . . ventilating the bowl
- E03D 9/052 . . . using incorporated fans
- E03D 9/06 . Auxiliary chambers with water connection to the flushing pipe and adapted to receive utensils for bowl-cleaning, e.g. brushes
- E03D 9/08 . Devices in the bowl producing upwardly-directed sprays; Modifications of the bowl for use with such devices (showers [A47K 3/28](#); bathing devices for special therapeutic or hygienic purposes [A61H 33/00](#), for specific parts of the body [A61H 35/00](#)); { Bidets;

- Combinations of bowls with urinals or bidets; Hot-air or other devices mounted in or on the bowl, urinal or bidet for cleaning or disinfecting}
- E03D 9/085 . . { Hand-held spray heads for bidet use or for cleaning the bowl}
- E03D 9/10 . Waste-disintegrating apparatus combined with the bowl {special flushing devices 5/00}
- E03D 9/12 . Means to prevent freezing of lavatories
- E03D 9/14 . Noise-reducing means combined with flushing valves (noise-absorbing means in pipe systems [F16L 55/00](#)){if not in combination with flushing valves [E03D 11/00](#); noise-reducing means in valves in general [F16K 47/00](#)}
- E03D 9/16 . Water pressure regulating means in flushing pipes
- E03D 11/00** **Other component parts of water-closets** (pipe-joints or couplings in general [F16L](#)){e.g. noise-reducing means in the flushing system (noise-reducing means in combination with flushing valves [E03D 9/14](#)), flushing pipes mounted in the bowl, seals for the bowl outlet, devices preventing overflow of the bowl contents; devices forming a water seal in the bowl after flushing, devices eliminating obstructions in the bowl outlet or preventing backflow of water and excrements from the waterpipe}
- E03D 11/02 . Water-closet bowls (auxiliary chambers with connections to flushing water for bowl-cleaning utensils [E03D 9/06](#); modified for using upwardly-directed sprays [E03D 9/08](#); seats or covers [A47K 13/00](#)){Bowls with a double odour seal optionally with provisions for a good siphonic action; siphons as part of the bowl (parts or details of bowls [E03D 11/13](#))}
- E03D 11/025 . . {Combined with wash-basins, urinals, flushing devices for chamber-pots, bed-pans, or the like}
- E03D 11/04 . . Bowls of flat shape with only slightly inclined bottom {Squat-type closets}
- E03D 11/06 . . Bowls with downwardly-extending flanges {for the sake of flushing}
- E03D 11/08 . . Bowls with means producing a flushing water swirl
- E03D 11/10 . . Bowls with closure elements provided between bottom or outlet and the outlet pipe; Bowls with pivotally supported inserts
- E03D 11/11 . . Bowls combined with a reservoir, e.g. containing apparatus for disinfecting or for disintegrating
- E03D 11/12 . Swivel-mounted bowls, e.g. for use in restricted spaces { slidably or movably mounted bowls; combinations with flushing and disinfecting devices actuated by the swiveling or sliding movement of the bowl}
- E03D 11/125 . . { Height adjustable bowls}
- E03D 11/13 . Parts or details of bowls; Special adaptations of pipe joints or couplings for use with bowls {e.g. provisions in bowl construction preventing backflow of waste-water from the bowl in the flushing pipe or cistern, provisions for a secondary flushing, for noise-reducing}
- E03D 11/135 . . {Supports for bowls}
- E03D 11/14 . . Means for connecting the bowl to the wall, e.g. to a wall outlet
- E03D 11/143 . . . {Mounting frames for toilets and urinals}
- E03D 11/146 {with incorporated cistern (wall built-in flushing cisterns, connecting a cistern to the wall [E03D 1/012](#))}

- E03D 11/16 . . Means for connecting the bowl to the floor, e.g. to a floor outlet
- E03D 11/17 . . Means for connecting the bowl to the flushing pipe
- E03D 11/18 . Siphons (for pipes in general [F16L 43/00](#), [F16L 45/00](#)){if as part of the bowl [E03D 11/02](#); connecting the siphon to the bowl}
- E03D 13/00** **Urinals** (without flushing devices [A47K 11/00](#)){Means for connecting the urinal to the flushing pipe and the wastepipe; Splashing shields for urinals}
- E03D 13/002 . { intended for use by women}
- E03D 13/005 . { Accessories specially adapted for urinals}
- E03D 13/007 . [N: Waterless or low-flush urinals; Accessories therefor (siphons [E03C 1/281](#))
- E03D 2001/00** **Water flushing devices with cisterns;** {Setting up a range of flushing devices or water-closets; Combinations of several flushing devices}
- E03D 2001/02 . High-level flushing systems
- E03D 2001/14 . . Cisterns discharging variable quantities of water (twin or multiple flushing cisterns [E03D 1/22](#); flushing devices operated by pressure of the water supply system and discharging variable quantities of water [E03D 3/12](#)){also cisterns with bell siphons in combination with flushing valves}
- E03D 2001/147 having provisions for active interruption of flushing
- E03D 2001/148 with means to prevent premature closing of flushing valve
- E03D 2009/00** **Sanitary or other accessories for lavatories** (hand tools for cleaning the toilets bowl [A47K 11/10](#); seats or covers for closets [A47K 13/00](#); body supports, other than seats for closets [A47K 17/02](#); devices for preventing contamination of drinking-water pipes [E03C 1/10](#)){Devices for cleaning or disinfecting the toilet room or the toilet bowl; Devices for eliminating smells (cleaning, disinfecting or deodorising the seat [A47K 13/30](#))}
- E03D 2009/02 . Devices adding a disinfecting, deodorising, or cleaning agent to the water while flushing (apparatus for disinfection [A61L 2/00](#); treatment of water in general [C02F](#))
- E03D 2009/024 . . using a solid substance
- E03D 2009/026 . . using a gel-form substance
- E03D 2009/028 . . using a liquid substance
- E03D 2201/00** **Details and methods of use for water closets and urinals not otherwise provided for**
- E03D 2201/20 . Noise reduction features
- E03D 2201/30 . Water injection in siphon for enhancing flushing

E03D 2201/40

. Devices for distribution of flush water inside the bowl